

Mineral Industry Surveys

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FLUORSPAR IN THE FIRST QUARTER 2003

Reported fluorspar consumption in the first quarter was 146,000 metric tons (t), about a 3% decrease compared with the previous quarter but nearly 8% lower compared with the first quarter of 2002. Consumption of fluorspar for hydrofluoric acid (HF) and aluminum fluoride was 124,000 t, essentially unchanged from the previous quarter and about 4% lower compared with the first quarter of 2002. Imports of fluorspar were 182,000 t or about 17% higher than in the previous quarter.

Defense Stockpile

There were no sales of fluorspar during the first quarter of 2003. At the end of March, unsold stockpile material consisted of 6,800 t of acid grade, 77,100 t of metallurgical grade, and 12,600 t of sub-specification metallurgical grade. Material committed for sale pending shipment (as of March 3) totaled about 94,500 t of acid grade and 21,800 t of metallurgical grade.

Industry News

In 2002, South Africa's fluorspar production decreased to 227,000 t (from 286,000 t in 2001) as a result of the shutdown of the Buffalo fluorspar mine and poor operational performance at the South African Land and Exploration Co.'s (Sallies) Witkop Fluorspar Mine. The Buffalo mine shut down because of legal problems with the previous owners, but hoped to resume production in 2003 (Ratlabala, 2003). Sallies has disappointed investors and reported a sharp deterioration in operational and financial results during the second half of 2002. As a result, majority stockholders in Australia replaced Sallies' management with turnaround specialists FRM Strategies in an attempt to save the company. The company initiated a turnaround strategy involving an extensive exploration program, improved mine planning, and operational improvements. These improvements are focused on optimizing the upgrade of the flotation plant, completed in December 2002, with the goal of accommodating a higher feed rate, increasing recoveries, and improving quality (Bailey, 2003¹; Bain, 2003§).

Fluorochemical News

DuPont Fluoroproducts has signed a letter of intent with Chinese companies Zhonghao New Chemical Material Co. and Changshu 3F Fluorochemical to form a joint venture to manufacture hydrofluorocarbons (HFCs) in China. DuPont will be the majority owner of the joint venture and will cooperate with Zhonghao to produce refrigerants 404a, 407c, and 410a; these are blends of HFCs 143a, 32, 125, and 134a. Production will be from a new facility in Changshu municipality, Jiangsu province and is expected to begin in the first half of 2004. DuPont will market the refrigerants under its Suva® brand in Asia. China is rapidly increasing capacity for HF and fluorochemical derivatives, in response to the growing domestic refrigeration and air-conditioning market, although capacity increases are outstripping domestic demand at present (Industrial Minerals, 2003). Because of this imbalance, China has begun to export HF and fluorochemicals.

Asahi Glass Fluoropolymers USA, a wholly owned subsidiary of Asahi Glass Co. Ltd. of Japan, announced that it is expanding its Bayonne, NJ, fluoropolymer plant to include production of AK 225 fluorinated solvents, which are based on hydrochlorofluorocarbon (HCFC) 225. The expansion is necessary to meet increasing demand for AK 225 by the U.S. Government and aerospace industry where it is used as a cleaning solvent and defluxing agent. AK 225 solvents are replacements for chlorofluorocarbon 113 and HCFC 141b, both of which are banned under the terms of the Montreal Protocol on Substances That Deplete the Ozone Layer (Asahi Glass Fluoropolymers, 2003§).

References Cited

- Industrial Minerals, 2003, New DuPont Chinese HFC plant: Industrial Minerals, no. 429, June, p. 19.
Ratlabala, Enock, 2003, South Africa's fluorspar industry struggles to reach capacity: South Africa Department of Minerals and Energy, Mineral Economics Directorate, MB Bulletin, March, p. 13-14.

¹References that include a section mark (§) are shown in the Internet References Cited section.

Internet References Cited

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Bailey, Stewart, 2003 (February 13), Nealon calls flack to fix SA ops, accessed May 1, 2003, at URL <http://allafrica.com/stories/200302140457.html>.

Bain, Julie, 2003 (March 27), Sallies sees earnings fall as production levels drop, accessed May 21, 2003, at URL <http://allafrica.com/stories/200303270444.html>.

TABLE 1
SALIENT FLUORSPAR STATISTICS¹

(Metric tons, unless otherwise specified)

	2002					2003
	First quarter	Second quarter	Third quarter	Fourth quarter	Total	First quarter
Imports for consumption:	138,000	93,100	108,000	155,000	494,000	182,000
Value per ton, c.i.f. U.S. port, acid grade	\$133	\$129 ^r	\$129	\$122	\$128 ^{r, 2}	\$128
Value per ton, c.i.f. U.S. port, metallurgical	\$94	\$84	\$89	\$101	\$92 ²	\$115
Exports	6,740	6,170	6,020	5,390	24,300	8,170
End of quarter stocks, consumer	118,000	125,000	99,400	122,000	XX	135,000
Fluorspar equivalent of imported hydrofluoric acid	38,100	51,700	48,500	34,000	172,000	47,900
Fluorspar equivalent of imported cryolite	1,740	1,210	1,730	4,860	9,540	1,480
Quarterly reported fluorspar consumption	158,000	131,000	147,000	151,000	588,000	146,000

^rRevised. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Average value for full year.

TABLE 2
CONSUMPTION OF FLUORSPAR BY END USE AND ASSAY RANGE¹
(DOMESTIC AND FOREIGN IN THE UNITED STATES)

(Metric tons)

End use or product	Fourth quarter 2002			2002	First quarter 2003		
	More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total		More than 97% calcium fluoride	Not more than 97% calcium fluoride	Total
Hydrofluoric acid and aluminum fluoride	126,000	--	126,000	478,000	124,000	--	124,000
Metallurgical	6,620	9,800	16,400	76,900	5,760	8,380	14,100
Other uses or products ²	8,490	--	8,490	33,300	8,130	--	8,130
Total	142,000	9,800	151,000	588,000	138,000	8,380	146,000
Stocks, end of quarter ³	91,600	30,900	122,000	122,000	104,000	31,100	135,000

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes acid grade used in enamel, glass and fiberglass, steel castings, and welding rod coatings.

³Stocks data include distributor stocks (excluding National Defense Stockpile holdings) and consumer stocks for hydrofluoric acid and aluminum fluoride.

TABLE 3
U.S. IMPORTS FOR CONSUMPTION OF FLUORSPAR, BY COUNTRY AND VALUE^{1,2}

	2002										2003	
	First quarter		Second quarter		Third quarter		Fourth quarter		Total		First quarter	
	Quantity (metric tons)	Value ³ (thousands)	Quantity (metric tons)	Value ³ (thousands)	Quantity (metric tons)	Value ³ (thousands)	Quantity (metric tons)	Value ³ (thousands)	Quantity (metric tons)	Value ³ (thousands)	Quantity (metric tons)	Value ³ (thousands)
Containing more than 97% calcium fluoride:												
China	89,900	\$12,200	60,400	\$7,930	66,000	\$8,630	128,000	\$15,600	344,000	\$44,400	115,000	\$15,100
France	40	13	--	--	60	25	39	13	139	51	--	--
Germany	--	--	1	3	--	--	--	--	1	3	--	--
Japan	--	--	--	--	--	--	2,910	344	2,910	344	--	--
Mexico	8,260	1,050	6,490	864	8,950	1,100	11,200	1,330	34,900	4,340	11,900	1,380
South Africa	31,700	4,000	15,000	1,730	24,500	3,090	11,900	1,470	83,100	10,300	22,800	2,790
United Kingdom	--	--	2	2	--	--	276	34	278	36	20	3
Total	130,000	17,300	81,900	10,500	99,500	12,800	154,000	18,800	466,000	59,500	150,000	19,300
Containing not more than 97% calcium fluoride:												
Austria	--	--	--	--	128	11	--	--	128	11	--	--
Canada	36	12	34	11	40	14	37	12	147	49	--	--
Japan	--	--	--	--	--	--	--	--	--	--	--	--
Mexico	2,930	244	11,200	927	8,470	745	596	52	23,200	1,970	11,300	955
South Africa	5,000	492	--	--	--	--	--	--	5,000	492	2,000	228
Spain	--	--	--	--	--	--	--	--	--	--	19,100	2,540
United Kingdom	74	9	--	--	--	--	--	--	74	9	--	--
Total	8,040	757	11,200	938	8,630	770	633	64	28,500	2,530	32,400	3,720
Grand total	138,000	18,000	93,100	11,500	108,000	13,600	155,000	18,900	494,000	62,000	182,000	23,000

-- Zero.

¹Imports for consumption include imports of immediate entry, and warehouse withdrawals.

²Data are rounded to no more than three significant digits; may not add to totals shown.

³Cost, insurance, and freight at U.S. ports.

Source: U.S. Census Bureau.

TABLE 4
IMPORTS FOR CONSUMPTION OF HYDROFLUORIC ACID¹

	2002										2003	
	First quarter		Second quarter		Third quarter		Fourth quarter		Total		First quarter	
	Quantity (metric tons)	Value ² (thousands)	Quantity (metric tons)	Value ² (thousands)	Quantity (metric tons)	Value ² (thousands)	Quantity (metric tons)	Value ² (thousands)	Quantity (metric tons)	Value ² (thousands)	Quantity (metric tons)	Value ² (thousands)
Canada	6,070	\$7,470	7,590	\$9,130	8,800	\$10,700	5,830	\$6,940	28,300	\$34,200	8,580	\$10,000
Japan	351	859	336	837	394	1,030	283	724	1,360	3,450	389	978
Mexico	18,800	17,800	26,300	24,800	22,900	21,900	16,200	15,200	84,200	79,800	22,800	22,100
Other ³	168	236	278	382	244	321	392	559	1,080	1,500	202	307
Total	25,400	26,400	34,500	35,200	32,400	34,000	22,700	23,500	115,000	119,000	32,000	33,400

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Cost, insurance, and freight at U.S. ports.

³Includes China, France, Germany, India, Italy, the Republic of Korea, the Netherlands, and the United Kingdom.

Source: U.S. Census Bureau.